IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

In re Application of: Bruce B. Randolph, Richard L. Anderson, and Robert B. Eldridge

Serial No.: 10/062,858

Group Art Unit: 1754

Filed: February 5, 2002

Examiner: Ngoc Yen M. Nguyen

For: TRANSPORTATION OF HYDROGEN FLUORIDE

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief is responsive to the Examiner's Answer mailed on January 12, 2005.

The Examiner states in the answer "one of ordinary skill in the art would have found it *prima facie* obvious to optimize the conditions within the tank car (or vessel) to maintain the HF/Sulfolane mixture in the liquid state while minimizing the potential release of HF in the event of an accident . . ." (*see* Examiner's Answer "EA", page 11, 3rd paragraph).

The Board is respectfully requested to examine the Example of the instant application. The Example states "HF can be contained at a lower pressure than HF alone due to vapor pressure effects of sulfolane" (*see* Application, p. 18).

Appellants assert that the Examiner is applying an improper "obvious to try" rationale. The Wu reference only states that a pressure regulator is used (*see* Example 2). However, Wu does not further state which pressures are critical. This is not the guidance that one of ordinary skill in the art would need in order to find a suitable pressure at which to contain the mixture.

The Examiner also states "the way to resolve safety problems as suggested by Peterson is only applicable to the process disclosed in Peterson . . ." (*see* EA, page 12, 1st paragraph).

According to the Federal Circuit "A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention." *In re Geisler*, 43 USPQ 2d 1362, 1366 (Fed. Cir. 1997).

Peterson teaches that the only way to resolve safety problems with HF is to not use HF. It definitely teaches away from the instant invention and, therefore, cannot be combined with the Wu reference. Since Peterson teaches away from using HF, the transportation of a closed volume selected from the group consisting of tank

cars, tank trucks, and portable vessels containing HF and a sulfone constitutes a patentable improvement over Wu.

Additionally, the Examiner states "it would have been *prima facie* obvious for one of ordinary skill in the art to under fill the tank car to minimize the possibility of accidental spillage during transport." (*see* EA, page 12, 5th paragraph).

The Board is respectfully directed to page 12, lines 8-11 of the instant application which states that a reason for having a vapor space with inert gas is to keep oxygen gas out of the container. Moreover, the container is a closed volume which, in and of itself, minimizes the possibility of spillage. It is not necessary to underfill the container for that purpose, when it is already a closed volume.

The Examiner further states ". . . even though Peterson does suggest replacing HF with sulfuric acid but this suggestion only applies to an alkylation process, not for all processes." (*see* EA, page 13, 3d paragraph).

Appellants argue that whether or not it is being used in an alkylation process, HF is still HF. Safety issues associated with HF do not automatically disappear when HF is no longer being used for alkylation. The Peterson reference itself even states ". . . HF release mitigation equipment installed in a refinery cannot protect against an HF release during unloading operations . . ." (*see*, col. 1, lines 43-47). Safety issues with HF are always prevalent, so Peterson teaches away from using HF at anytime, not only in an alkylation process.

Appellants still maintain that for the above-mentioned reasons, there is no motivation to combine Peterson with Wu or to combine Peterson with both Wu and Hutchinson.

The Examiner additionally states ". . . Appellants have not provided any evidence to support the alleged "long felt need" [of safely transporting HF] (*see* EA, page 14, 3d paragraph).

Appellants maintain that the safety issues mentioned in Peterson (stated above) provide this evidence.

Appellants still maintain that Hutchinson does not disclose the transportation of HF. Since Peterson teaches away from using HF, it is not combinable with either Wu or Hutchinson.

Regarding the JP '502 reference, the Examiner basically argues that since HF can react with pyridine to form a complex, it would be obvious to react HF with sulfolane.

Pyridine is a nitrogen compound. Sulfolane is a sulfur compound. Knowing the information about pyridine and HF as disclosed in the JP '502 reference would not automatically lead one skilled in the art to react HF with sulfolane, a completely different compound with different properties. To show obviousness, at least some degree of predictability is required. *See In re Rinehart*, 189 USPQ 1243 (CCPA, 1976). This standard is not met by the disclosure of the JP '502 reference.

Reversal of the Examiner's Final Rejection and Allowance of claims 1-80 are respectfully requested.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450, on

11 March 2005
(Date)

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